

CLAIMS

1. An interactive multimedia apparatus (1, 11, 21) comprising:-
  - 5 a digital musical instrument (3, 14, 24, 41) having a plurality of control members (42, 44, 45, 46) including at least one limited state (on/off) control member (44) and at least one dynamic range state control member (42, 45, 46);
    - 10 a central control unit (2, 12, 22) having a store of digital media stored thereon and a suite of software for interpreting the state of the control members (42, 44, 45, 46) in order to select, open and render the digital media;
    - 15 a control unit associated with the digital musical instrument (3, 14, 24, 41) having a CPU and a sensing means for identifying the state of the control members (42, 44, 45, 46), the control unit having means for communicating the current state of the control members (42, 44, 45, 46) to the central control unit (2, 12, 22) and means for communicating between the central control unit and the CPU;
    - 20 the sensing means comprising a plurality of independent transducers each of which monitors the activation of a separate dynamic range state control member (42, 45, 46).
  2. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 1, wherein the independent transducers are selected from a group of electrical, optical, pressure, movement, magnetic and piezo-electric transducers.
  - 25 3. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 2, wherein the piezo-electric transducer is selected from a group consisting of piezo-electric crystal transducers, piezo-electric ceramic transducers and piezo-electric film transducers.

4. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein the digital musical instrument (3, 14, 24, 41) is a guitar/guitar type device.
5. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein a number of the dynamic range state control members (42, 45, 46) are strings (42) of a stringed instrument (3, 14, 24, 41).
6. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 5, wherein each independent transducer monitors one individual string (42) and converts movement of the string (42) into electrical signals.
7. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein at least one dynamic range state control member (42, 45, 46) is a foot pedal.
8. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 7, wherein one or each foot pedal is monitored by a potentiometer.
9. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 7 or claim 8, wherein activation of the foot pedal dynamically modifies a variable control such as volume, pan or special effect parameter controls.
10. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein the central control unit (2, 12, 22) has a visual display unit (V.D.U.) and the suite of software has a graphical user interface (G.U.I) displayable on the V.D.U..
11. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 10, wherein the control unit of the digital musical instrument (3, 14, 24, 41) has a control panel (48) comprising a plurality of limited state control members (44), namely switches for navigating through the G.U.I. of the software suite.

12. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 11, wherein the central control unit (2, 12, 22) has memory for storing user assignments of digital media against specific control members (42, 44, 45, 46), the memory being accessible by a software module of the software suite in response to activation of a control member (42, 44, 45, 46) or by activation of a combination of one or more limited state or dynamic range state control members (42, 44, 45, 46) to open, render, modify, adjust, add effects, change parameters and change controls of the rendered digital media.  
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13. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein indicators are provided on the digital musical instrument (3, 14, 24, 41) and are controllable by software on the central control unit (2, 12, 22) in response to an assignment of digital media against specific control members (42, 44, 45, 46) by a user, the indicators being provided to show the user which of the dynamic range state control members (42, 45, 46) have been assigned to produce an audio/visual output if activated.  
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14. An interactive multimedia apparatus (1, 11, 21) as claimed in claim 13, wherein the indicators are a plurality of light emitting diodes disposed on the digital musical instrument (3, 14, 24, 41) below each string (42), each L.E.D. being associated with one string (42).  
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15. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein at least one limited state (on/off) control member (44) and at least one dynamic range state control member (42, 45, 46) are provided.  
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16. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein between one and sixteen limited state (on/off) control members (44) and between one and twelve dynamic range state control members (42, 45, 46) are provided.  
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17. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein each control member (42, 44, 45, 46) is associatable with any file stored in the store of the central control unit (2, 12, 22).
- 5 18. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein at least some of the digital audio files are recorded instrument notes of a plurality of stringed instrument types (3, 14, 24, 41).
- 10 19. An interactive multimedia apparatus (1, 11, 21) as claimed in any one of the preceding claims, wherein the store further comprises a chord and scale store of digital media containing the note associations for a wide range of defined chord and scale sequences, the store also defining the correct note associated with each string position for the selected chord or limited scale sequence so that the notes are played in the correct sequence when the strings (42) are strummed up or down.
- 15 20. An interactive multimedia apparatus (1, 11, 21) substantially as herein described with reference to and as shown in the accompanying drawings.